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Fabio Casati

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EXAMINER

NASH, LASHANYA RENEE

ART UNIT

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2453

NOTIFICATION DATE

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ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/066,098	<b>Applicant(s)</b> CASATI ET AL.	
	<b>Examiner</b> LASHANYA R. NASH	<b>Art Unit</b> 2453	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-7,9,11-14,16-19 and 27-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-7,9,11-14,16-19 and 27-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

This Office action is in response to the amendment filed 22 December 2009. Claims 1-3, 5-7, 9, 11-14, 16-19, and 27-31 are presented for further consideration. Claims 1, 2, 3, 5, 6, 9, 11, 12, 16, 17, 18 and 19 are currently amended. Claims 27-31 are new.

### ***Response to Arguments***

Applicant's arguments filed 22 December 2009 have been fully considered but they are not persuasive.

In considering Applicant's arguments, the following remarks are noted:

- (I) Applicant contends that Kuno does not disclose first discovering a service from among plural services that is associated with a node with the node with no hard-coded conversation logic that is executed, followed by selecting one of plural conversation logic based on the discovered service.
- (II) Applicant contends that Kuno fails to disclose dynamically plugging into the selected conversation logic into the node of the workload definition at runtime.
- (III) Applicant contends that Kuno fails to disclose selecting a conversation logic from among plural conversation logic in the conversation logic repository based on the returned service identifier that corresponds to a selected service, where the service is selected from among plural services in response to sending of a service selection query to an electronic services platform or other service broker.

In considering (I), Applicant contends that Kuno does not disclose first discovering a service from among plural services that is associated with a node with the node with no hard-coded conversation logic that is executed, followed by selecting one of plural conversation logic based on the discovered service. Examiner respectfully disagrees. Examiner asserts that Kuno expressly discloses that dynamic e-service interactions require discovering a service from among plural services that describe themselves, or rather the plurality of services make the associated service capabilities known to requesting clients (1. Introduction, paragraphs 2-3; page 1). Furthermore, Kuno expressly discloses that neither the service nor the client developer must explicitly handle conversational logic in their code (*4. Dynamic Conversation Controller for E-Services*, paragraph 3; page 9). Therefore, it is evident that Kuno teaches that the aforementioned *discovered* service is associated with the node with no hard-coded conversation logic. Lastly, Examiner asserts that Kuno discloses the dynamic conversation controller which receives specific information from a particular service that is indicative of the conversations supported by that service (i.e. service specification). It logically follows that the aforementioned service is discovered by the client, and subsequently the selection of the appropriated conversation logic that is supported by the particular service is required in order to dynamically support conversation implementation between the client and the discovered service (*4. Dynamic Conversation Controller for E-Services*, paragraph 1; pages 8-9). Therefore, Examiner asserts that a selection of a conversation logic that is described by the service

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specification at the conversation controller, as taught by Kuno, is indeed a selection *based on the discovered service*, as claimed by Applicant.

In considering (II), Applicant contends that Kuno fails to disclose dynamically plugging into the selected conversation logic into the node of the workload definition at runtime. Examiner respectfully disagrees. Examiner asserts that Kuno expressly discloses that according to the e-service employed, an appropriate conversation language can be downloaded and implemented accordingly, and that the conversation language for that service is previously published to and determined from the UDDI registry of service specifications (3.2 *Web Service Conversation Language*, paragraph 2; page 5) Therefore, it logically follows that the discovered service, as previously discussed in addressing (I) above, dynamically "plugs" the selected conversation logic at run time of the service interaction. Therefore, Examiner asserts that Kuno discloses inter alia, dynamically plugging into the selected conversation logic into the node of the workload definition at runtime.

In considering (III), Applicant contends that Kuno fails to disclose selecting a conversation logic from among plural conversation logic in the conversation logic repository based on the returned service identifier that corresponds to a selected service, where the service is selected from among plural services in response to sending of a service selection query to an electronic services platform or other service broker. Examiner asserts that Kuno discloses discovering a service from among plural

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services that is associated with a node with the node with no hard-coded conversation logic that is executed, followed by selecting one of plural conversation logic based on the discovered service, as discussed in addressing (I) above. However, Examiner asserts that Kuno does not expressly disclose that the service discovery comprises sending a query to an electronic services platform or other service broker, and that the query returns a service identifier that corresponds to the selected service. However, upon further consideration, a new grounds of rejection is made in view of newly applied prior art reference Czerwinski et al. ["An Architecture for a Secure Service Discovery Service"-retrieved from ACM database] as set forth below in the Office action.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

**Claims 1, 11-14, 16-19, 27, 29 and 31 are rejected under 35 U.S.C. 102(a) as being anticipated by Kuno et al. ["Conversations + Interferences = Business Logic"-retrieved from the Internet], hereinafter referred to as Kuno.**

In reference to claim 1, Kuno discloses:

- A method for selecting a conversation logic at run-time for a workflow definition that includes at least one node with no hard-coded conversation logic (abstract; title page), the method comprising the steps of:

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- a) maintaining a conversation logic repository that includes plural conversation logic (i.e. UDDI registry of conversation definitions; 3.2 *Web Service Conversation Language*, page 5), wherein each of the plural conversation logic is external to the workflow definition (i.e. conversation is implemented differently than the workflow logic; 5 *Related Work*, page 12, paragraph 2), wherein each of the plural conversation logic specifies a corresponding set of operations to be performed on a respective service (WSCL specification; 3.2 *Web Service Conversation Language*, page 6);
- b) when executing the node with no hard-coded conversation logic (i.e. e-service client not hard-coded with conversation logic; 4.1 *Client automation*, page 10), dynamically discovering, by a computer, a service associated with the node with no hard-coded conversation logic, wherein the discovered service is selected from among plural services (i.e. e-services discovery; 2. *Approach*, page 1);
- c) selecting one of the plural conversation logic in the conversation logic repository based on the discovered service (i.e. conversation mapped to appropriate service; 4. *Dynamic Conversation Controller for E-services*; paragraphs 1-3; pages 8-9); and
- d) dynamically plugging in the determined selected logic into the node at run time in the computer (i.e. conversation implemented dynamically during e-service communication; 4.1. *Client automation*, page 10).

In reference to claim 11, Kuno discloses:

- A system for dynamically selecting a conversation logic at run-time for a workflow definition that includes at least one node with no hard-coded conversation logic (abstract; title page) comprising:
  - a) a workflow engine (*Related Work*, page 12, paragraph 2) for processing workflow definition (i.e. service definition; 3.3. *Web-Service Definition Language*; page 7);
  - b) a conversation logic repository that includes plural conversation logic (i.e. UDDI registry of conversation definitions; 3.2 *Web Service Conversation Language*, page 5) and that is external to the workflow definition (i.e. conversation is implemented differently than the workflow logic; 5 *Related Work*, page 12, paragraph 2), wherein each of the plural conversation logic specifies a corresponding set of operations to be performed on a respective service (WSCL specification; 3.2 *Web Service Conversation Language*, page 6);
  - an engine (i.e. conversation controller) configured to select one of the plural services for execution of the node with no hard-coded conversation logic, (4.1 *Client Automation*, paragraph 2; pages 10-11);
  - c) a dynamic conversation logic selection mechanism configured to receive a service identifier that is associated with the selected service at run-time and based on the service identifier to select a conversation logic from the plural conversation logic for interacting with the selected service at run-time (i.e. conversation mapped to appropriate service; 4. *Dynamic Conversation Controller for E-services*; paragraphs 1-3; pages 8-9).



In reference to claim 12, Kuno discloses the system of claim 11 further comprising:

d) a source for services; wherein the source discovers services based on a service selection rule; wherein the dynamic conversation logic selection mechanism (DCLSM) (i.e. dynamic conversation controller) selects appropriate conversation logic from the conversation logic repository based on a discovered service, (*4. Dynamic Conversation Controller for E-services*; pages 8-9).

In reference to claim 13, Kuno discloses the system of claim 12 wherein the source for services is one of a service broker, a service marketplace, an e-services platform, a company, and an entity (i.e. e-service; *4.1 Client automation*, page 10).

In reference to claim 14, Kuno discloses, wherein only services that have a conversation protocol compatible with one of the conversation logic available in the repository are selected (; *4.1 Client automation*, page 10).

In reference to claim 16, Kuno discloses wherein a particular one of the plural conversation logic is for the exclusive use of a given one of the plural services (*4. Dynamic Conversation Controller for E-services*; paragraphs 1-3; pages 8-9).

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In reference to claim 17, Kuno discloses wherein another of the plural conversation logic is shared by two or more of the plural services (4. *Dynamic Conversation Controller for E-services*; paragraphs 1-3; pages 8-9).

In reference to claim 18, Kuno discloses wherein the selected conversation logic is not defined in a workflow at process definition time (5 *Related Work*, page 12, paragraph 2)

In reference to claim 19, Kuno discloses wherein the dynamic conversation logic selection mechanism is configured to perform late binding of the selected conversation logic at run-time (4.1. *Client automation*, page 10).

In reference to claim 27, Kuno discloses wherein different ones of the plural conversation logic are compatible with different ones of the plural services, and wherein selecting one of the plural conversation logic comprises selecting a conversation logic that is compatible with the discovered service (3.3. *Web-Service Definition Language (WSDL)*, page 7).

In reference to claim 29, Kuno discloses, wherein the dynamic conversation logic is configured to dynamically plug the selected conversation logic into the node (3.2 *Web Service Conversation Language*, paragraph 2; page 5).

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In reference to claim 31, Kuno discloses wherein different ones of the plural conversation logic are compatible with different ones of the plural services, and wherein selecting one of the plural conversation logic comprises selecting a conversation logic that is compatible with the discovered service (3.3. *Web-Service Definition Language (WSDL)*, page 7).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 2, 3, 5-7, 9, and 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuno et al. ["Conversations + Interferences = Business Logic"-retrieved from the Internet] in view of Czerwinski et al. ["An Architecture for a Secure Service Discovery Service"-retrieved from ACM database], hereinafter referred to as Kuno and Czerwinski respectively.**

In reference to claim 3, Kuno discloses:

- A method for selecting a conversation logic at run-time (abstract; title page) comprising the steps of:

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- maintaining a conversation logic repository that includes at least one conversation logic (i.e. UDDI registry of conversation definitions; 3.2 *Web Service Conversation Language*, page 5), wherein each of the plural conversation logic specifies a corresponding set of operations to be performed on a respective service (WSCL specification; 3.2 *Web Service Conversation Language*, page 6);
- at run-time, sending a service selection query to an electronic services platform or other service broker (i.e. e-service discovery; 2 *Approach*, page 2) ;
- receiving a returned service identifier (i.e. business service information in message; 3.1. *UDDI Registries*, page 4); and selecting a conversation logic from the conversation logic repository based on the returned service identifier (i.e. conversation mapped to appropriate service; 4. *Dynamic Conversation Controller for E-services*; paragraphs 1-3; pages 8-9).

However, the reference fails to disclose sending a selection query to an electronic service platform or other service broker, wherein the service selection query is for selecting a service from among plural services, and the returned service identifier corresponding to the selected service. Nonetheless, this was a well known feature in service discovery in the art at the time of the invention, as further evidenced by Czerwinski. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to accordingly modify the teachings of Kuno.

In an analogous art, Czerwinski discloses an architecture for service discovery in a networked environment (*abstract*). Furthermore sending a selection query to an electronic service platform or other service broker, wherein the service selection query

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is for selecting a service from among plural services (i.e. clients employ queries for location of services; *abstract*), and the returned service identifier corresponding to the selected service (i.e. unique service key; 6.1 *DNS and Globe*; page 32 ). One of ordinary skill in the art would have been so motivated to accordingly modify the teachings of Kuno so as to support end-users locating a particular network service out a plurality (i.e. hundreds of thousands) of accessible services discovered (Czerwinski ; *abstract*).

In reference to claim 2, Kuno discloses the method of claim 1 wherein the step of when executing the node with no hard-coded conversation logic, dynamically discovering a service associated with the node with no hard-coded conversation logic includes the steps of: determining a service based on a service selection rule; receiving a service reference; and wherein the step of determining a corresponding conversation logic in the conversation logic repository based on the discovered service further includes the step of using the service reference to determine a conversation logic for the determined service (4. *Dynamic Conversation Controller for E-services*; paragraphs 1-3; pages 8-9). However, the reference fails to disclose sending a selection query to an electronic service platform or other service broker, wherein the service selection query is for selecting a service from among plural services, and the returned service identifier corresponding to the selected service. Nonetheless, this was a well known feature in service discovery in the art at the time of the invention, as further evidenced by

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Czerwinski. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to accordingly modify the teachings of Kuno.

In an analogous art, Czerwinski discloses an architecture for service discovery in a networked environment (*abstract*). Furthermore sending a selection query to an electronic service platform or other service broker, wherein the service selection query is for selecting a service from among plural services (i.e. clients employ queries for location of services; *abstract*), and the returned service identifier corresponding to the selected service (i.e. unique service key; 6.1 *DNS and Globe*; page 32 ). One of ordinary skill in the art would have been so motivated to accordingly modify the teachings of Kuno so as to support end-users locating a particular network service out a plurality (i.e. hundreds of thousands) of accessible services discovered (Czerwinski ; *abstract*).

In reference to claim 5, Kuno discloses the method of claim 3 wherein a particular one of the plural conversation logic is for the exclusive use of a given one of the plural services (4. *Dynamic Conversation Controller for E-services*; paragraphs 1-3; pages 8-9).

In reference to claim 6, Kuno discloses the method of claim 3 wherein another of the plural conversation logic is shared by two or more of the plural services (4. *Dynamic Conversation Controller for E-services*; paragraphs 1-3; pages 8-9).

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In reference to claim 7, Kuno discloses the method of claim 3 wherein the conversation logic is not defined in a workflow at process definition time, the workflow defining a procedure that executes services (5 *Related Work*, page 12, paragraph 2)

In reference to claim 9, Kuno discloses the method of claim 3 further comprising the step of: performing late binding of the selected conversation logic at run-time (4.1. *Client automation*, page 10).

In reference to claim 28, Kuno discloses wherein different ones of the plural conversation logic are compatible with different ones of the plural services, and wherein selecting one of the plural conversation logic comprises selecting a conversation logic that is compatible with the discovered service (3.3. *Web-Service Definition Language (WSDL)*, page 7).

In reference to claim 30, Kuno fails to disclose the engine is configured to submit a selection service query to an electronic platform to perform selection of the services from the plural services. Nonetheless, this was a well known feature in service discovery in the art at the time of the invention, as further evidenced by Czerwinski. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to accordingly modify the teachings of Kuno.

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In an analogous art, Czerwinski discloses an architecture for service discovery in a networked environment (*abstract*). Furthermore submitting a selection service query to an electronic platform to perform selection of the services from the plural services (i.e. clients employ queries for location of services; *abstract*), and the returned service identifier corresponding to the selected service (i.e. unique service key; 6.1 *DNS and Globe*; page 32). One of ordinary skill in the art would have been so motivated to accordingly modify the teachings of Kuno so as to support end-users locating a particular network service out a plurality (i.e. hundreds of thousands) of accessible services discovered (Czerwinski ; *abstract*).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LASHANYA R. NASH whose telephone number is (571)272-3957. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached on (571) 272-6776. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LaShanya R Nash/  
Examiner, Art Unit 2453  
April 10, 2010

/Philip J Chea/  
Primary Examiner, Art Unit 2453